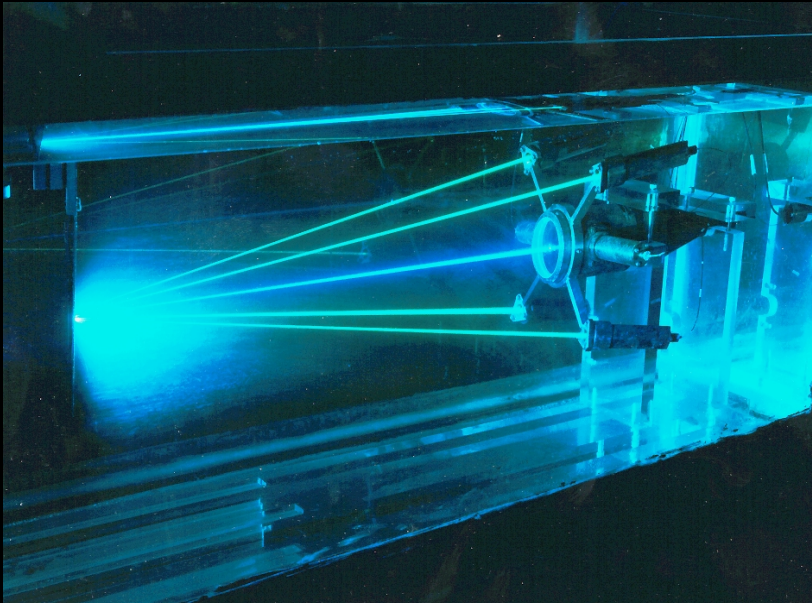
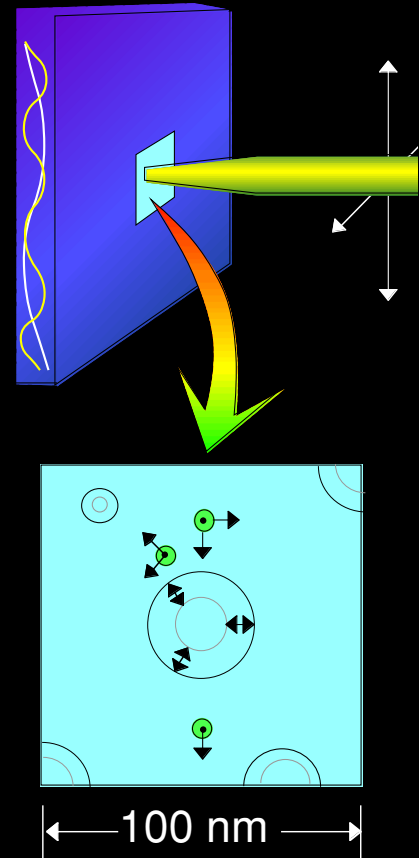


ADVANCED LASER VIBROMETRY

3-D Laser Vibrometer



Nearfield Laser Vibrometer Microscope



New displacement measurement techniques have been developed at NRL which can provide dynamical information in structures and materials never before possible. The first example is a multi-beam laser interferometer capable of determining the broadband, three-dimensional motion (vector displacement) distribution on the surface of a structure. This tool is being applied to study the structural acoustics of underwater and in-air platforms. The second is an interferometer employing a specially designed optical fiber tip which allows measurement of the dynamic displacement of microstructures with a spatial resolution on the order of tens of nanometers. NRL is currently exploring its use in the study of the mechanics of MEMS devices and biomolecules.

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